

## CLAIMS

1. A method of treating an exhaust gas containing a fluorine compound, said method comprising:

5        heating the exhaust gas in the presence of  $O_2$ ; and  
      then adding  $H_2O$  to the exhaust gas to decompose or oxidize the fluorine compound.

2. A method of treating an exhaust gas according to  
10 claim 1, wherein the fluorine compound is decomposed or oxidized in the presence of a catalyst after  $H_2O$  is added to the exhaust gas.

3. A method of treating an exhaust gas according to  
15 claim 1 or 2, further comprising:

      before said heating, removing at least one of a powdery component, a water-soluble component, and a hydrolytic component from the exhaust gas.

20 4. A method of treating an exhaust gas according to any one of claims 1 to 3, further comprising:

      after the fluorine compound is decomposed or oxidized, removing an acid gas, which is produced when the fluorine compound is decomposed, from the exhaust gas.

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5. A method of treating an exhaust gas containing a fluorine compound, said method comprising:

      heating the exhaust gas in the presence of  $O_2$ ; and  
      then adding  $H_2$  to the exhaust gas to decompose or  
30 oxidize the fluorine compound.

6. A method of treating an exhaust gas according to claim 5, wherein the fluorine compound is decomposed or oxidized in the presence of a catalyst after  $H_2$  is added to the exhaust gas.

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7. A method of treating an exhaust gas according to claim 5 or 6, further comprising:

before said heating, removing at least one of a powdery component, a water-soluble component, and a hydrolytic component from the exhaust gas.

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8. A method of treating an exhaust gas according to any one of claims 5 to 7, further comprising:

after the fluorine compound is decomposed or oxidized, removing an acid gas, which is produced when the fluorine compound is decomposed, from the exhaust gas.

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9. An apparatus for treating an exhaust gas containing a fluorine compound, said apparatus comprising:

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a heating section for heating the exhaust gas;

an exhaust gas supply for supplying the exhaust gas to said heating section;

an  $H_2O$  adding section located just downstream of said heating section for adding  $H_2O$  to the exhaust gas by supplying  $H_2O$  or  $H_2$  to the exhaust gas; and

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an acid gas removal section for removing an acid gas produced by a reaction between the exhaust gas and  $H_2O$ .

10. An apparatus for treating an exhaust gas according to claim 9, wherein said heating section comprises a heating wire, and said heating wire is wound thickly at an inlet-side part of said heating section and is wound thinly at an outlet-side part of said heating section.

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11. An apparatus for treating an exhaust gas according to claim 9, further comprising:

5 a catalytic reactor disposed downstream of said H<sub>2</sub>O adding section for decomposing the fluorine compound by catalytic reaction.

12. An apparatus for treating an exhaust gas according to claim 9, further comprising:

10 a water heating pipe disposed at said heating section; wherein H<sub>2</sub>O to be added to the exhaust gas in said H<sub>2</sub>O adding section is supplied through said water heating pipe and is heated by said water heating pipe.

13. An apparatus for treating an exhaust gas according to claim 9, further comprising:

a water heating pipe disposed outside of said heating section; and

20 an external heater disposed on said water heating pipe;

wherein H<sub>2</sub>O to be added to the exhaust gas in said H<sub>2</sub>O adding section is supplied through said water heating pipe and is heated by said external heater.

25 14. An apparatus for treating an exhaust gas according to claim 9, further comprising:

30 an air ejector for maintaining a pressure of the exhaust gas, which has been treated by said heating section, said H<sub>2</sub>O adding section, and said acid gas removal section, at a predetermined value; and

a bypass pipe for returning a part of the treated exhaust gas to an inlet side of said apparatus so as to mix the treated exhaust gas with the untreated exhaust gas.